COMPOSITION OF COTTONSEED HULL BRAN

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INTRODUCTION

The problem of a profitable utilization of cottonseed hulls dates back to the beginning of the cottonseed oil industry (ca 1870) and has become more important yearly because of the continually increasing production of cottonseed oil. Wesson (1) estimates that in modern oil mill practice there are produced 375 pounds of hulls for every ton of seed crushed and that 6.5 million tons of seed find their way to the mills annually. This means that about 1.25 million tons of hulls are produced annually (2) the profitable utilization of which is a problem of no small economic importance to the cotton oil industry, and indirectly, to the farmer.

The product obtained from cottonseed hulls after removal of the lint and grinding is termed cottonseed hull bran, new uses for which are being sought and wider markets desired. Since a thorough knowledge of the composition of cottonseed hull bran was thought to be desirable before any semi-commercial work was attempted, the Bureau of Standards undertook a study of its composition with the results reported below. The particular product investigated was furnished by the East St. Louis Cotton Oil Company, and, according to the information supplied the author, the material had been previously ground and the major portions of the fibers removed by an air separation process. As received, the bran contained only a very small amount of short fiber which could be separated by further sieving. This, however, was not thought to be desirable and the bran was therefore analyzed as received.

PROCEDURE AND DISCUSSION

The methods used in this investigation were those of the Association of Official Agricultural Chemists (Edition 2), except where otherwise indicated. For the sake of convenience the results are presented in four tables, but they are best discussed as a whole.

That the bran is low in feeding value is evident from a consideration of Table 1, which indicates that it is composed primarily of the so-called nitrogen-free extract and crude fiber. The nitrogen-

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1Contribution from the National Bureau of Standards, Washington, D. C. Publication approved by the Director of the Bureau. Received for publication September 14, 1928.
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3Reference by number is to "Literature Cited", p. 1107.